



# Figure 1

Gai	0803	.....MKRD	HHHHHQQKKT	MWMNEEDDGN	GMDLLAVLG	YKVRSSSE	MAD	VAQKLEQL	V	54
		EAGGSSGGGS	SADMGSCKDX	VWAGAXGEEE	XVDELLAALG	YKVRSSD	MAD	VAQKLEQL	M	60
Gai	0803	AMSNVQBEDDL	SQLAETETVHY	NPAELYTWLD						
		AMGMGGVTTP	AORMTGSCRT	WPRTKFI...						



Inventor: HARBERD et al  
SN 09/485,529/Sheet 2 of 22  
Atty. Dkt.: 620-91

## Figure 2a

CCCCGACGGTCGCGGCCGCGGCCAACGCGACGCCCGCGCTGCCGGTCGTCTGTGG  
TCGACACGCAGGAGGCCGGGATTTCGGCTGGTGCACGCGCTGCTGGCGTGCGCGG  
AGGCCGTGCAGCAGGAGAACCTCTCCGCCGCGGAGGCGCTGGTGAAGCAGATAC  
CCTTGCTGGCCGCGTCCCAGGGCGGCGCGATGCGCAAGGTCGCCGCCTACTTCGG  
CGAGGCCCTCGCCCCGCGGTCTTCCGCTTCCGCCCGCAGCCGGACAGCTCCCTC  
CTCGACGCCGCCTTCGCCGACCTCCTCCACGCGCACTTCTACGAGTCCTGCCCCCTA  
CCTCAAGTTCGCGCACTTCACCGCCAACCAGGCCATCCTGGAGGCGTTCGCCGGC  
TGCCGCCGCGTGCACGTCGTCGACTTCGGCATCAAGCAGGGGATGCAGTGGCCC  
GCACTTCTCCAGGCCCTCGCCCTCCGTCCCGGGCGGCCCTCCCTCGTTCCGCCTCAC  
CGGCGTCGGCCCCCGCAGCCGGACGAGACCGACGCCCTGCAGCAGGTGGGCTG  
GAAGCTCGCCCAGTTCGCGCACACCATCCGCGTCGACTTCCAGTACCGCGGCC  
TCGTCGCCGCCACGCTCGCGGACCTGGAGCCGTTTCATGCTGCAGCCGGAGGGCG  
AGGAGGACCCGAACGAAGANCCCGANGTAATCGCCGTCAACTCAGTCTTCGAGA  
TGCACCGGCTGCTCGCGCAGCCCGGCGCCCTGGAAAAGGTTCTTGGGCACCGTGC  
GCCCCCGTGCGGCCAGAATTCNTCACCCTGGTGGAAACAGGAGGCAAATCACA  
ACTCCGGCACATTCTGGACCGCTTCACCGAGTCTCTGCACTACTACTCCACCAT  
GTTTCGATTCCCTCGAGGGCGGCAGCTCCGGCGGGCGGCCCATCCGAAGTCTCATCG  
GGGGCTGCTGCTGCTCCTGCCGCCGCCGGCACGGACCAGGTTCATNTCCGAGGTGT  
ACCTCGGCCGGCAGATCTGCAACGTGGTGGCCTGCGAGGGGGCGGAACGCACAG  
ANCGCCACGAGACGCTGGGCCAGTGGCGGAACCGGCTGGGCAACGCCGGGTTCG  
AGACCGTCCACCTGGGCTCCAATGCCTACAAGCAGGCGANACGCTGCTGGCGC  
TCTTCGCCGGCGGCGAACGGCTACANGTGAAGAAAAGGAAGGCTGCCTGACGC  
TGGGGTTGCACACNCCCCCTGATTGCCACCTCGGCATGGCGCCTGGCCGGGCCG  
TGATCTCGCGAGTTTTGAACGCTGTAAGTACACATCGTGAGCATGGAGGACAACA  
CAGCCCCGGCGGCCCGCCCCGGCTCTCCGGCGAACGCACGCACGCACGCACTTGA  
AGAAGAAGAAGCTAAATGTCATGTGAGTGAAGCGCTGAATTGCAGCGACCGGCTA  
CGATCGATCGGGCTACGGGTGGTTCCGTCCGTCTGGCGTGAAGAGGTGGATGGA  
CGACGAACTCCGAGCCGACCACCGGCATGTAGTAATGTAATCCCTTCTTCGT  
TCCCAGTTCTCCACCGCCTCCATGATCACCCTGTAATACTCCTAAGCCCTATTATTA  
CTACTATTATGTTTAAATGTCTATTATTGCTATGTGTAATTCCTCCAACCGCTCAT  
ATCAAAATAAGCACGGGCCGGAAAAA  
AAAAA



Inventor: HARBERD et al  
SN 09/485,529/Sheet 3 of 22  
Atty. Dkt.: 620-91

### Figure 2b(1)

CGCGCAATGCTTAAGGTCNCCGCCTACTTCGGNGCAGGCCCTCGCCCCGCCGCGTC  
TTCCGCTTCCGCCCCGAGCCGGACAGCTCCCTCCTCGACGCCGCCTTCGCCGACCT  
CCTCCACGCGCACTTCTACNAGTCCTGCCCCCTACCTCAAGTTCGCGCACTTCACCG  
CCAATTAGGCCATCCTGGAGGCGTTCGCCGGCTGCCGCCGCGTGCACGTCGTCGA  
CTTCGGCATCAAGCAGGGGATGCAGTGGCCCCGCACTTCTCCAGGCCCTCGCCCTC  
CGTCCCGGCGGCCCTCCCTCGTTCGCTCACCGGCGTTCGGCCCCCGCAGCCGG

### Figure 2b(2)

ACCTCCTTCGTCGTCTNTNNGGTGGGGGCGCCAGGAGCTTATGTGGTGGAGGNTG  
GCCCCNCCGGTCGCGACCGCGNCCTACGNGACGCCCGCGCTGCCGGTCGTCTGG  
TCGACACGCAGGAGGCCGGGATTTCGGNTGGTNCACGCGCTGCTGGNGTGCGNNG  
AGNCCGTGCAGCAGGAGAACCTCTCCGCCGCGGAGGCGCTNGTGAAGNAGATAC  
CCNTGCTGGCCGAGTCCCAGGGCGGCGAGATGNGCAAGGTNGCAGCTTACTTNG  
NAGANGCCCTCGCCCCGNGAGTGATTCCAATTANCGCCTGCAGCCGGANAGCTCC  
GTCCTCGAANCCGCNTTNGCCGACCTCCTCCACGNGCACNTNTACGAGTC

### Figure 2b(3)

TANTAGTCTCTCGGTGGGGGCGCCAGGAGCTCTNTGGTGGAGGCNGCCCCGCCG  
GTCGCGGCCGCGGCCAACGCGACGCCCGCGCTGCCGGTCGTCTGGTGCACACG  
CAGGAGGCCGGGATTTCGGATGGTGCACGCGCTGNTGGCGTGCGCGGAGGCCGTG  
AAACAGTTGAAGGNCCNCGCCTNNNNNCNCAANNTGAAAGCCCCGNG

### Figure 2b(4)

GGCTNCCNCCNCGTGCACGTCGTCGACTTCGGCATCAAGCATGGGATGCANTGGC  
NCGNACTTCTCCANGCCCTCGCCCTCCGTCCCGGCGGCCCTCCCTCGTTCCGCCTC  
ACCGGCGTCGGCCCCCGCAGCCGGACGAGACCGACGCCCTGCANCAGGTGGGC  
TGGAAGCTCGCCAGTTCGCGCACACCATCCGCGTCGACTTCCANTACCGTGGCC  
TCGTGCGCGCCACGCTCGCGGACCTGGAGCCGTTTCATGCTGCANCCGGAGGGCGA  
GGAGGACCCGAACGACGGAGCCCGAGGTAATCGCCGTCAACTCAGTCTTCGAGA  
TGCACCGGGCTGCTCNCGCANCCCGGCGACNCTGGAANAA



Inventor: HARBERD et al  
SN 09/485,529/Sheet 4 of 22  
Atty. Dkt.: 620-91

## Figure 2b(5)

CAAGANGCTAATCACAACCTCCGGCACATTCTGACCGCTTCACCGAGTCTCTGC  
ANTACTACTCCACCATGTTTCGATTCCCTCGAGGGCGGCAGCTCCGGCGGCGGCCC  
ATCCGAAGTCTCATCGGGGGCTGCTGCTGCTCCTGCCGCCGCCGGCACGGACCAT  
GTCATGTCCGAXGTGTACCTCGGCCGGCAGATCTGCAACGTGGTGGCCTGCGAGG  
GGGCGGAGCGCACANTANCGCCACGCAGACNCTGGGCCAGTGGCGTGAACCGGC  
TGGGCAACGCCNGGTTCCANNNNCCGTCCACCTGGGCTCCAATGCCTACAATCAN  
GCNNNCACGCTGCTGGCGCCTCTTCGCCC

## Figure 2b(6)

TCGCCANTCGGCATGGNGCCTGGCCGGGGCCGTGATCTCGCGAGTTTTGAACGCTG  
TAAGTACACATCGTGAGCATGGAGGACAACACAGCCCCGGCGGCCCGCCCGGCT  
CTCCGGCGAACGCACGCACGCACGCACTTGAAGAAGAANAAGCTAAATGTCAT  
GTCAGTGAGCGCTGAATTGCAACGACCGGCTACGATCGATCGGGCTACGGGTGG  
TTCCGTCCGTCTGGCGTGAAGAGGTGGATGGACGACGAACCTCCGANCCGACCAC  
CACCGGCATGTAGTAATGTAATCCCTTCTTCGTTCCAGTTCTCCACCGCCTCCAT  
GGATCACCCGTAAAACCTCCTAAGCCCTAATTATNNACTAACTAATTATGTTTTAA  
AATGTTCTAATTAATTGGCTATGTTGTAATNCCTCCAAACCGGCTCATTTTCAAA  
NATTAAGCCACGGGCCCGGAACCTTGGTTTAACAACCTCCCNATTGNAAAATTNA  
AATNGAAATTTTTGGTTNC

## Figure 2b(7)

GTTGGTGGNGGCGATTTGGGTACAAGGTGCGCGCCTCCGACATGGNNGGANGTGG  
GGCAGAAGCTGGAGCAGNTCGAGATGGCCATGGGGATGGGNGGCGTGGGCGCT  
GGCGCCGCCCTGACGACAGGTTNGCCACCCGCGNGGCCGCGGACACNGTGCANT  
ACAACCCACACNGACNTGTCGTCTTGGGTGAGAGCATGCTGTCGGAGCTAAANG  
AGCCGCGNGCCGCCCTCCCGCCCCGCCCCGAGCTCAACGCCTCCACCTCCTCCAC  
CGTCACGGGCAGCGGCGGCTACTTCGATAACCCTCCCTG

## Figure 2b(8)

TGATGGNNGGAGNTTANGGGTTANAAATGTGGGGGANTTCCGAANNNGGTGAGG  
ANATATNNTCAGAAGTTGGAGCAGATGAGAGATNGCTGATGGGGATAGGGTAGG  
NGTGGGTGCCGGTGCNGCCCCCNAGGANAGATTGGCCACCCACTTAGCAAGTGG  
ANACCGTGGATTACNACCCACAGACCTGTCGTGGTTGGGTTTGAAGAGCGTGGTG  
TGGGAGCTGAACGGGCGNGCGGCGTGCCCCCTCCCGCCCCGCCCCGAGCTCAACGCC  
TCCACCTCCTCCACCGTACACGGGCAGCGGCGGCTAGTTCGATCTCCCGCCCTCC  
GTCGACTCCTCCAGCAGCATNTANGCGCTGCGGCCGATCCCTNCCCAAGCNGC  
GNGGNCCGAGCCGTGTAN



Inventor: HARBERD et al  
SN 09/485,529/Sheet 5 of 22  
Atty. Dkt.: 620-91

## Figure 2b(9)

TTTCANTTTCNTCCTTTTTTCTTCTTTTTTCCAACCCCCGGCCCCCNGACCCTTGGAT  
CCAAATCCCGAACCCGCCCCAGAACCNNGGAACCGAGGCCAAGCAAAAGNTTTG  
CGCCAATTATTGGCCAGAGATAGATAGAGAGGCGAGGTAGCTCGCGGATCATGA  
AGCGGGAGTACCAGGACGCCGGAGGGAGCGGCGGCGGCGGTGGCGGCATGGGT  
TCGTCCGAGGACAAGATGATGGTGTTCGGCGGCGGCGGGGGAGGGGGAGGAGGT  
GGACGAGCTGCTGGCGGCGCTCGGGTACAAGGTGCGCGCCTCCGACATGGCGGA  
CGTGGCGCAGAAGCTGGAGCAGCTCGAGATGGCCATGGGGATGGGCGGCGTGGG  
CGCCGGCGCCGCCCCCGACGACAGCTTCGCCACCCACCTCGCCACGGACACCGTG  
CAGTACAACCNCCCNGACC

## Figure 2b(10)

GGACGACGACCTCCGAGCCGACCACCACCGGCATGTAGTAATGTAATCCCTTCTT  
CNTTCCCAGTNCTCCACCGCCTCCATGATCACCCGTAAAACTCCTAAGCCCTATT  
ATTACTACTATTATGTNTAANTGTCTATTATTGCTANGTGTAATTCCTCCAACCGC  
TCATATCAAAATAAGCACGGGCCGGACTIONTTGTTANCAGCTCCAATGAGAAATGAA  
ATGAATTTTGTACGCAAGGCACGTCCAAAACTGGGCTGAGCTTTGTTCTGTTCTG  
TTATGTTTCATGGTGCTCACTGCTCTGATGAACATGATGGTGCCTCCAATGGTGGC  
TTTGCAATTGTTGAAACGTTTGGCTTGGGGGACTTGNGTGGGTGGGTGCATGGGG  
ATGAATATTACATCNCCGGATTAATAAAGCCATCCCGTTGGCCGTCTTTGA  
ATANCTTGCCCNAAACGAAATTTCCCCCNATC

## Figure 2b(11)

AAANCCTANAANATATAGAGGCGATGTNGCNCCCCNATCANNAACNNGGATTACN  
GNAACNCCNGAAGGAGCGGCGGCGGCGGTGGCAGCATNGGCTCGTCCGATGACA  
AATATCATGGTGTCGGCGGCGGCGGGGGACGGGGAGGAGGTGCACAACNTTTNG  
GCGGGACTCGNGTACCACGTGNACGGTGCCGCNCTNGNGGATNTGGCCCTNGAA  
GATGGGCCACCTCCAAA



Inventor: HARBERD et al  
SN 09/485,529/Sheet 6 of 22  
Atty. Dkt.: 620-91

## Figure 2b(12)

CGGCGGCCCCGTGGCGGCATGGGCTCGTCCGAGGACNAGATGATGGTGTGCGGCG  
GCGGCGGGGGANGGGGATGATGTGGACTATCTGCTGGCGGCGCTCGGGTACAAG  
GTGCGCGCCTCCGACAGGCGGAGCCCGCGCATAACTGGAGCCGCTCGAGATGGC  
CNTGGGGATNGGCGGCNTGGGCNCCNGCGCCTCCCCCG

## Figure 2b(13)

TGGNGCTCGGGTGNCCCGTGCGCGCCTCCGACATGGCGGGACGTGGCGCAGAAC  
TGGAGCAGCTCGAGATGGCCATGGGGATGGGCGGCGTGGGCGCCGGCGCCGCCC  
CCGACGACAGCTTCGCCACCCACCTCGCCACGGACACCGGCACACAACCCACCG  
ACCTGTCGTCTTGGGTCGAGAGCATGCTGTGCGGATCTCNACGCGCCNCCGNCGCC  
CCTCCCGCCCCG



Inventor: HARBERD et al  
SN 09/485,529/Sheet 7 of 22  
Atty. Dkt.: 620-91

### Figure 2c(1)

ANNTTGTNCNNNTACATCCCATGNGCCGCGCNATGCTNAAGGTCGCCGCCTACT  
TCGGCGCAGGCCCTCGCCCGCCGCGTCTTCCGCTTCCGCCCGCAGCCGGACAGCT  
CCCTCCTCGACGCCGCTTCGCCGACCTCCTCCACGCGCACTTCTACGAGTCCTGC  
CCCTACCTCAAGTTCGCGCACTTCACCGCCAACCAGGCCATCCTGGAGGCGTTTCG  
CCGGCTGCCGCCGCGTGCACGTCGTCGACTTCGGCATCAAGCAGGGGATGCAGT  
GGCCCGCACTTCTCCAGGCCCTCGCCCTCCGTCCCGGCGGCCCTCCCTCGTTCCGC  
CTCACCGGCGTTCGGCCCCCGCAGCCGGACGANAAACGACGCCCTG

### Figure 2c(2)

NTTCCCCGGCAGTTAAAAGCNTCCACTTCTTCCACCGTCACGGGCAGCGGCGGNT  
ACTTNGATCTCCCGCCCTCAGTCGACTCCTCCAGCAGCATCTACGCGCTGCGGCC  
GATCCCCTCCCCGGCCGGCGCGACGGCGCCGGCCGACCTGTCCGCCGACTCCGTG  
CGGGATCCCAAGCGGATGCGCACTGGCGGGAGCAGCACCTCGTCGTCATCCTCCT  
CATANTCGTCTCTCGGTGGGGGCGCCAGGAGCTCTGTGGTGGAGGCNGCCCCGCC  
GGTCGCGGCCGCGGCCAACGCGACGCCCGCGCTGCCGGTCGTCGTGGTTCGACAC  
GCAGGAGGCCGGGATTTCGGATGGTGCACGCGCTGNTGGCGTGCGCGGAGGCCGT  
GNAAGCAGTTNGAAGGGCCTNCGCCGTGNATNNCGAACAANNNGGAAGNCCN

### Figure 2c(3)

CANCCCGCTGNTCGCCACCTCGGCATGGCGCCTGGCCGGGGCCGTGATCTCGCGAG  
TTTTGAACGCTGTAAGTACACATCGTGAGCATGGAGGACAACACAGCCCCGGCG  
GCCGCCCGGCTCTCCGGCGAACGCACGCACGCACGCACTTGAAGAAGAAGAAG  
CTAAATGTGTCATGTGAGTGAGCGCTGAATTGCANCGACCGGCTACGATCGATCGG  
GCTACGGGTGGTTCCGTCCGTCTGGCGTGAAGAGGTGGATGGACGACGAACCTCC  
GANCCGACCACCACCGGCATGTAGTAATGTAATCCCTTCTTCGTTCCAGTTTCTC  
CACCGCCTCCATGATCACCCCGTAAAACTCCTAAGCCCTATNNNTTACTACNATT  
AATGTTTTAAANTGTTCTANTAATTGCTATGNTGTTTATTNCC

### Figure 2c(4)

TATCGAAGTAGCCGCCGCTGCCCNTGCACGGTGGAGGAGGTGGAGGCGTTGAGC  
TGCGGGGCGGGCGGGAGGGGCGGCGGCGGCACGTTNAGCTCCGACAGCATGCTC  
TCGACCCAAAACNACAGGTCCGTGGGGTTGTAGTGCACGGTGTCCGTGGCGAGG  
GGGTGGCNAANCTGTCGTGAGGGGCGGCGCCNGCGCCACNCCGCCCATCCCCA  
TGGCCATCTCGANCTGCTCCAGCTTCTGCGCCACTTCNCCATGTCNGATGCGCG  
CNCCTTGTAACCGA



Inventor: HARBERD et al  
SN 09/485,529/Sheet 8 of 22  
Atty. Dkt.: 620-91

## Figure 2c(5)

ACGGCGCGGNCCNCGCNNGCTTGGGAGGGGATCGGCCGCAGCGCNTANATGCTG  
CTGGAGGAGTCGACGGAGGGCGGGAGATCGAACTAGCCGCCGCTGCCCGTGTAC  
GGTGGAGGAGGTGGAGGCGTTGAGCTGCGGGGCGGGCGGGAGGGGCAGCNGCT  
GCACGTTNAGCTCCACACACACGTCTCTCAACCCAACCACGACNCGTCTGTGGGG  
TNGTAATNCACGGTNTCCCTNGCTANGTGGGTGGCCAATCTNT

## Figure 2c(6)

CACGGTGTCCGTGGCGAGGTGGGTGGCGAAGCTGTCGTCGGGGGCGGGCGCCGGC  
GCCACGCCGCCCATCCCCATGGCCATCTCGAGCTGCTCCAGCTTCTGCGCCACG  
TCCGCCATGTCGGAGGCGCGCACCTTGTACCCGAGCGCCGCCAGCAGCNCGNCC  
ACCTCCTCCCCCTCCCCCGCCGCCGCCGACACCATCATCTTGTCTCGGACGANCC  
CATGCCGCCACCGCCGCCGCCGCTCCCTCCGGCGTCCTGGTACTCCCGCTTCATG  
ATCCGCGAGCTACCTCGCCTCTCTATCTATCTCTGGCCAATAATTGCGCA

## Figure 2c(7)

GACCACCACCGGCATGTAGTAATGTAATCCCTTCTTCNTTCCCAGTTCTCCACCGC  
CTCCATGATCACCCGTAAACTCCTAAGCCCTATTATTACTACTATTATGTNTAA  
ATGTCTATTATTGCTANGTGTAATTCCTCCAACCGCTCATATCAAAATAAGCACG  
GGCCGGACTTTGTTAGCAGCTCCAATGAGAATGAAATGAATTTTGTACGCAAGGC  
ACGTCCAAACTGGGCTGAGCTTTGTTCTGTTCTGTTATGTTTCATGGTGCTCACTG  
CTCTGATGAACATGATGGTGCCTCCAATGGGTGGCTTTGCAATTGTTGAACGTTT  
TGGCTTGGGGGACTTGGTGNNTGGTGCATGGGAATGAANATTCCACATCCNCNG  
GAATTAAAATTAGCCCATCCCCG





Inventor: HARBERD et al  
SN 09/485,529/Sheet 9 of 22  
Atty. Dkt.: 620-91

Figure 3a

TTTCANTTTCNTCCTTTTTTCTTCTTTTTTCCAACCCCCGGCCCCCNGACCCTTGGATCC  
AAATCCCGAACCCGCCCCCAGAACCNGGAACCGAGGCCAAGCAAAAGNTTTGCGCC  
AATTATTGGCCAGAGATAGATAGAGAGGCGAGGTAGCTCGCGGATCATGAAGCGGG  
AGTACCAGGACGCCGGAGGGAGCGGCGGCGGCGGTGGCGGCATGGGTTCGTCCGAG  
GACAAGATGATGGTGTGCGGCGGCGGCGGGGAGGGGGAGGAGGTGGACGAGCTGC  
TGGCGGCGCTCGGGTACAAGGTGCGCGCCTCCGACATGGCGGACGTGGCGCAGAAG  
CTGGAGCAGCTCGAGATGGCCATGGGGATGGGCGGCGTGGGCGCTGGCGCCGCCCC  
TGACGACAGGTTNGCCACCCGCNNGCCGCGGACACNGTGCANTACAACCCACNGA  
CNTGTCTGTCTTGGGTGAGAGCATGTCTGCGGAGCTAAANGAGCCGCNGCCGCCCC  
TCCCGCCCCGCCCCGAGCTCAACGCCTCCACCGTCACGGGCAGCGGCGGNTACTTNG  
ATCTCCCGCCCTCAGTCGACTCCTCCAGCAGCATCTACGCGCTGCGGCCGATCCCCT  
CCCCGGCCGGCGCGACGGCGCCGGCCGACCTGTCCGCCGACTCCGTGCGGGATCCC  
AAGCGGATGCGCACTGGCGGGAGCAGCACCTCGTCGTCATCCTCCTCATANTCGTCT  
CTCGGTGGGGGCGCCAGGAGCTCTGTGGTGGAGGCGGCCCCGCCGGTTCGCGGCCG  
GGCCAACGCGACGCCCGCGCTGCCGCTGCTCGTGGTGCACACGCAGGAGGCCGGA  
TTCGGCTGGTGCACGCGCTGCTGGCGTGCAGGAGGCCGTGCAGCAGGAGAACCTC  
TCCGCCGCGGAGGCGCTGGTGAAGCAGATACCCTTGCTGGCCGCGTCCCAGGGCGG  
CGCGATGCGCAAGGTGCGCGCCTACTTCGGCGAGGCCCTCGCCCCGCCGCTCTCCG  
CTTCCGCCCGCAGCCGGACAGCTCCCTCCTCGACGCCGCTTCGCCGACCTCCTCCA  
CGCGCACTTCTACGAGTCTGCCCCCTACCTCAAGTTCGCGCACTTCACCGCCAACCA  
GGCCATCCTGGAGGCGTTCGCCGGCTGCCGCCGCGTGCACGTCGTCGACTTCGGCAT  
CAAGCAGGGGATGCAGTGGCCCGCACTTCTCCAGGCCCTCGCCCTCCGTCCCGGCCG  
CCCTCCCTCGTTCCGCCTCACCGGCGTCCGCCCCCCCGCAGCCGGACGAGACCGACGC  
CCTGCAGCAGGTGGGCTGGAAGCTCGCCCAGTTCGCGCACACCATCCGCGTCGACTT  
CCAGTACCGCGGCCTCGTCGCCGCCACGCTCGCGGACCTGGAGCCGTTTCATGCTGCA  
GCCGGAGGGCGAGGAGGACCCGAACGAAGANCCCGANGTAATCGCCGTCAACTCA  
GTCTTCGAGATGCACCGGCTGCTCGCGCAGCCCGGCGCCCTGGAAAAGGTTCTTGGG  
CACCGTGCGCCCCCGTGCGGGCCAGAAATCCTCACCGTGGTGGAAACAGGAGGCAA  
ATCACAACCTCCGGCACATTCCTGGACCGCTTCACCGAGTCTCTGCACTACTACTCCA  
CCATGTTCGATTCCCTCGAGGGCGGCAGCTCCGGCGGCGGCCCATCCGAAGTCTCAT  
CGGGGGCTGCTGCTGCTCCTGCCGCCGCCGGCACGGACAGGTTCATNTCCGAGGTGT  
ACCTCGGCGGGCAGATCTGCAACGTGGTGGCCTGCGAGGGGGCGGAACGCACAGAN  
CGCCACGAGACGCTGGGCCAGTGGCGGAACCGGCTGGGCAACGCCGGGTTCGAGAC  
CGTCCACCTGGGCTCCAATGCCTACAAGCAGGCGANACGCTGCTGGCGCTCTTCGC  
CGGCGGCGAACGGCTACANGTGAAGAAAAGGAAGGCTGCCTGACGCTGGGGTTGC  
ACACNCCCCCTGATTGCCACCTCGGCATGGCGCCTGGCCGGGGCCGTGATCTCGCGA  
GTTTTGAACGCTGTAAGTACACATCGTGAGCATGGAGGACAACACAGCCCCGGCGG  
CCGCCCCGGCTCTCCGGCGAACGCACGCACGCACGCACTTGAAGAAGAAGAAGCTA  
AATGTCATGTGAGTGAAGCGCTGAATTGCAGCGACCGGCTACGATCGATCGGGCTAC  
GGGTGGTTCCGTCCGTCTGGCGTGAAGAGGTGGATGGACGACGAACCTCCGAGCCGA  
CCACCACCGGCATGTAGTAATGTAATCCCTTCTTCGTTCCAGTTCTCCACCGCCTCC  
ATGATCACCCGTAAAACTCCTAAGCCCTATTATTACTACTATTATGTTTAAATGTCTA  
TTATTGCTATGTGTAATTCCTCCAACCGCTCATATCAAAATAAGCACGGGCCGGACT  
TTGTTANCAGCTCCAATGAGAATGAAATGAATTTTGTACGCAAGGCACGTCCAAAA  
CTGGGCTGAGCTTTGTTCTGTTCTGTTATGTTTCATGGTGCTCACTGCTCTGATGAACA  
TGATGGTGCCTCCAATGGTGGCTTTGCAATTGTTGAAACGTTTGGCTTGGGGGACTT  
GNGTGGGTGGGTGCATGGGGATGAATATTCACATCNCCGGATTAAATTAAGCCAT  
CCCGTTGGCCGTCCTTTGAATANCTTGCCCNAAACGAAATTTCCCCCNATC

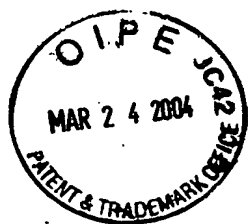


Inventor: HARBERD et al  
SN 09/485,529/Sheet 10 of 22  
Atty. Dkt.: 620-91

Figure 3b

PRETTYBOX of: My.Msf(\*) August 7, 1997 13:06:42.76

Gai	.....M	KRDH HHHHQ.	.....D	KRTMMNNEED	DNGMDDELLA	VLGYKVRSE	41
Rht	IERRGSSRIM	KREYQDAGGS	GGGGGGMGSE	DKMNVSAAG	EGEEVDELLA	ALGYKVRASD	60
Gai	MADVAKLEQ	LEVMMMS	....NVQEDD	LSQLATETVH	YNPAELYTML	DSMLTDLNPP	93
Rht	MADVAKLEQ	LEMAMGMGGV	GAGAAPDRQV	XHPXAADTVX	YNPTDXSSMV	ESMLSELXEP	120
Gai	.....P	.....S	.....S	SNAEYDLKAI	PGDAIILNQFA	IDSASSSNQ	123
Rht	XPPLPPAPQL	NASTVTGSGG	YXDLPPSVDS	SSSIYALRPI	PSPAGATAPA	DLSADSVRDP	180
Gai	.....GGG	YTNKRLKCS	NG.....VVE	.....TTAT	AESTRHHVVLV	DSQENGVRVLV	169
Rht	KRMRTGGSST	SSSSSSXSSL	GGGARSSVVE	AAPPVAAAN	ATPALPVVVV	DTQEGAGIRLV	240
Gai	HALLACAEAV	QKENLTVAEA	LVKQIGFLAV	SOIGAMRKVA	TYFAEALARR	IYRLSPSQ	227
Rht	HALLACAEAV	QQENLSAAEA	LVKQIPLLA	SOGCAMRKVA	AYFGEALARR	VFRFRPPDS	300
Gai	SPIDHSLSDT	LQMHEFETCP	YLKFAHFTAN	QAILLEAFQK	KRVHVIDFSM	SQGLQWPALM	287
Rht	SLLDAAAFADL	LHAHFYESCP	YLKFAHFTAN	QAILLEAFAGC	RRVHVVDFTGI	KQGMQWPALL	360
Gai	QALALRPGGP	PVFRLTGIGP	PAPDNFDYLH	EVGCKLAHLA	EAIHVEFEYR	GFVANNTLADL	347
Rht	QALALRPGGP	PSFRLTGVGP	POPDETDAHQ	QVGVKLAQFA	HTIRVDFQYR	GLVATLADL	420
Gai	DASMLELRPS	EIES.....V	AVNSVFELHX	LLGRPGAIDK	VLG.VVNQIK	PEIFTVVE.Q	400
Rht	EPFMLQPEGE	EDPNEXPXVI	AVNSVFEMHR	LLAQPGALEK	VLGHRAPPCG	PEFXTVVETO	480
Gai	ESNHNSPIFL	DRFTESLHYV	STLFDSLEGV	PSGQ.....	SGAAAAPAA	DKVMSEVY	442
Rht	EANHNSGTFL	DRFTESLHYV	STMFDSLEGG	SSGGGPSEVS	.....	GTDQVXSEVY	540
Gai	LGRQICNVVA	CDGPDRLVERH	ETLSQMRNRF	GSAGFAAAHI	GSNAFKQASM	LLALFNGGEG	502
Rht	LGRQICNVVA	CEGAERTXRH	ETLGQWRNRL	GNAGFETVHL	GSNAYKOAXT	LLALFAGGER	600
Gai	YRVEESDGCL	MLGWHTRPPLI	ATSAWKLSN	532			
Rht	LXVEEKEGCL	TLGLHTXPPLI	ATSAWRLAGP	630			



Inventor: HARBERD et al  
SN 09/485,529/Sheet 11 of 22  
Atty. Dkt.: 620-91

## Figure 4a

ACGCGTCCGGAAGCCGGCGGGAGCAGCGGCGGGCGGGAGCAGCGCCGATATGGG  
GTCGTGCAAGGACAAGGTGATGGCGGGGGCGGCGGGGGAGGAGGAGGACGTCT  
ACGAGCTGCTGGCGGCGCTCGGGTACAAGGTGCGGTTCGTCCGACATGGCCGACG  
TCGCGCAGAANCTGGAGCAGCTGGAGATGGCCATGGGGATGGGCGGCGTGAGCG  
CCCCCGGCGCCGCGGATGACGGGTTCGTGTCGCACCTGGCCACGGACACCGTGC  
ACTACAACCCCTCGGACCTCTCCTCCTGGGTTCNGAGAGCATGCTTTCGGAGTTA  
AAGGCGCCGTTGCCCCCTTATCCCGCCAGGCGCCGCGGGCTGCCC GCCATGCTTT  
CCAACTTCGTCCACTGTCACCGGCGGCGGTGGTAGCGGCTTCTTTGAANTCCAG  
CCGCTGCCGANTCGTCGAGTAGCACNTACGCCCTCAGGCCGATCTCCTTACCGGT  
GGTGGCGACGGCTGACCCGTCGGCTGCTGACTCGGCGAGGGACACCAAGCGGAT  
GCGCACTGGCGGCGGCAGCACGTCGTCGTCCTCATCGTCGTCTTCCTCTCTGGGC  
GGTGGGGCCTCGCGGGGCTCTGTGGTGGAGGCTGCTCCGCCGGCGACGCAAGGG  
GCCGCGGCGGCGAATGCGCCCGCGGTGCCGTTGTGGTGGTTGACACGCAGGAG  
GCTGGNATCGGGCCTGGTGTC



Inventor: HARBERD et al  
SN 09/485,529/Sheet 12 of 22  
Atty. Dkt.: 620-91

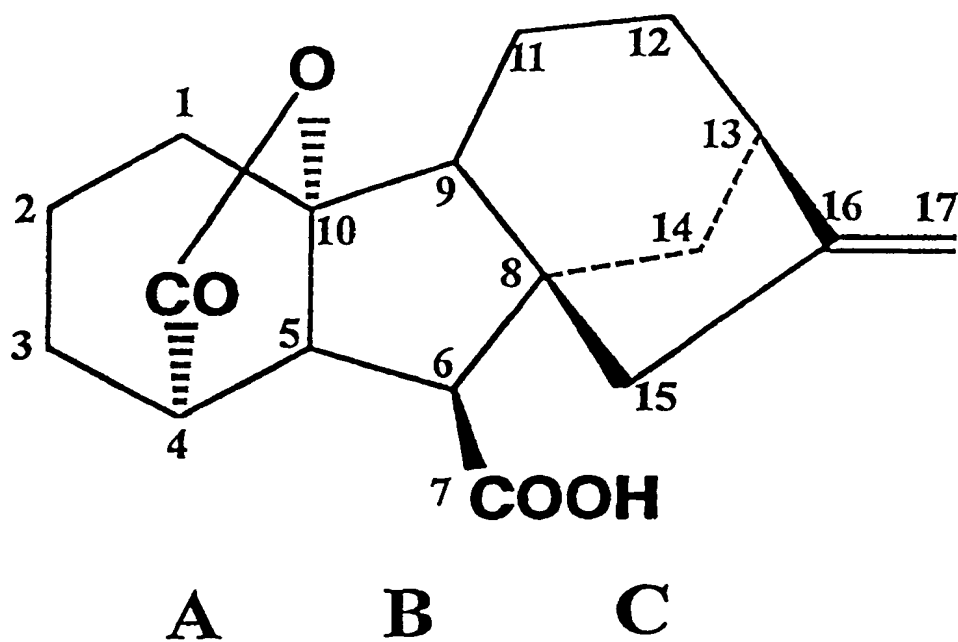
Wheat Rice Gai	I E R R G S S R I M T R P E A G G S S G K R D H H H H Q D	K R E Y Q D A G G S T R P E A G G S S G K R D H H H H Q D	G G G G G G N G S E G G S S A D M G S C G G G G G G N G S E	D K M M V S A A A G K D X V M A G A A G K K T M M M N E E D	E G E E V D E L L A E E E D V D E L L A D G N G M D E L L A	A L G Y K V R A S D A L G Y K V R S S D V L G Y K V R S S E	60 50 41
Wheat Rice Gai	M A D V A O K L E Q M A D V A O K L E Q M A D V A O K L E Q	L E M A N G M G G V L E M A N G M G G V L E M A N G M G G V	G A Q A A P D R Q V S A P G A A D D G F L S Q L A T E T V H	X H P X A A A D T V X V S H L A T D T V H L S Q L A T E T V H	Y N P T D X S S W V Y N P S D L S S W V Y N P A E L Y T W L	E S N L S E L X E P E S M L S E L K A P D S M L T D L N P P	120 110 93
Wheat Rice Gai	X P P L P P . A P Q L P L I P P G A A G L P A M L S P T S S	L N A . . . . . S L P A M L S P T S S L P A M L S P T S S	T V T G S G . G Y T V T G G G S G F T V T G G G S G F	X D L P P S V D S S F E X P A A A X S S S S S S S S S S S S	S S I Y A L R P I P S S T Y A L R P I S N A E Y D L K A I P	S P A G A T A P A D L P V V A T A D P S G D A I L N . . . Q	171 170 112
Wheat Rice Gai	L S A D S V R D P K A A D S A R D T K F A I D S A . . . . .	R M R T G G S S T S R M R T G G S S T S R M R T G G S S T S	S S S S S X S S L G S S S S S S S S L G S S S N Q G G G G	G G A . R S S S V E G G A S R G S V V E D T Y T T N K R L K	A A P P V . A A A A A P P A T Q G A A C S N G V V E T T	A N A T P A L P V V A A N A P A V P V V A T A E S T R H V V	228 229 157
Wheat Rice Gai	V V D T O . . E A G V V D T O E E E A G L V D S O . . E N G	I R L V H A L L A C I R L V H A L L A C V R L V H A L L A C	A E A V Q Q E N L S X E A V Q Q E N F . A E A V K E N L T	A A E A L V K O I P V A E A L V K O I G V A E A L V K O I G	L L A A S O G G A M F L A V S O I G A M F L A V S O I G A M	R K V A A Y F G E A R K V A T Y F A E A R K V A T Y F A E A	286 258 215
Wheat Rice Gai	L A R R V F R F R P L A R R I Y R L S P L A R R I Y R L S P	Q P D S S L L D A A S Q . . S P I D H S S Q . . S P I D H S	F A D L L H A H F Y L S D T L Q M H F Y L S D T L Q M H F Y	E S C P Y L K F A H E T C P Y L K F A H E T C P Y L K F A H	F T A N O A I L E A F T A N O A I L E A F T A N O A I L E A	F A G C R R V H V V F Q G K K R V H V I F Q G K K R V H V I	346 258 273
Wheat Rice Gai	D E G I K O G M O M D E S M S O G L O M D E S M S O G L O M	P A L L O A L A L R P A L M O A L A L R P A L M O A L A L R	P G G P P S F R L T P G G P P V F R L T P G G P P V F R L T	G V G P P Q P D E T G I G P P A P D N F G I G P P A P D N F	D A L Q Q V G W K L D Y L H E V G C K L D Y L H E V G C K L	A Q F A H T I R V D A H L A E A I H V E A H L A E A I H V E	406 258 333
Wheat Rice Gai	F Q Y R G L V A A T F E Y R G F V A N T F E Y R G F V A N T	L A D L E P F M L Q L A D L D A S M L E L A D L D A S M L E	P E G E E D P N E X L R P S E I E S . . L R P S E I E S . .	P X V I A V N S V F V A V N S V F V A V N S V F	E M H R L L A Q P G E L H K L L G R P G E L H K L L G R P G	A L E K V L G H R A A I D K V L G . V V A I D K V L G . V V	466 258 387
Wheat Rice Gai	P P C G P E F X T V N Q I K P E I F T V N Q I K P E I F T V	V E T O E A N H N S V E . O E S N H N S V E . O E S N H N S	G T F L D R F T E S P I F L D R F T E S P I F L D R F T E S	L H Y Y S T M F D S L H Y Y S T L F D S L H Y Y S T L F D S	L E G G S S G G G P L E G V P S G Q . . L E G V P S G Q . .	S E V S S G A A A A S E V S S G A A A A S E V S S G A A A A	526 258 434
Wheat Rice Gai	P A A A G T D Q V X D K V M . . . . . D K V M . . . . .	S E V Y L G R O I C S E V Y L G K O I C S E V Y L G K O I C	N V V A C E G A E R N V V A C D G P D R N V V A C D G P D R	T X R H E T L G Q W V E R H E T L S Q M V E R H E T L S Q M	R N R L G N A G F E R N R F G S A G F A R N R F G S A G F A	T V H L G S N A Y K A A H I G S N A F K A A H I G S N A F K	586 258 488
Wheat Rice Gai	O A X T L L A L F A O A S M L L A L F N O A S M L L A L F N	G G E R L X V E E K G G E G Y R V E E S G G E G Y R V E E S	E G C L T L G L H T D G C L M L G W H T D G C L M L G W H T	X P L I A T S A U R R P L I A T S A U K R P L I A T S A U K	L A G P 630 L . . . . . 258 L S T N 532	L A G P 630 L . . . . . 258 L S T N 532	

Figure 4b



Inventor: HARBERD et al  
SN 09/485,529/Sheet 13 of 22  
Atty. Dkt.: 620-91

Figure 5





Inventor: HARBERD et al  
SN 09/485,529/Sheet 14 of 22  
Atty. Dkt.: 620-91

Figure 6a

GTCGACCCACGCGTCCGGAAGCCGGCGGGAGCAGCGGCGGCGGGAGCAGCGCC  
GATATGGGGTTCGTGCAAGGACAAGGTGATGGCGGGGGCGGCGGGGGAGGAGGA  
GGACGTCGACGAGCTGCTGGCGGCGCTCGGGTACAAGGTGCGGTTCGTCCGACAT  
GGCCGACGTCGCGCAGAAAGCTGGAGCAGCTGGAGATGGCCATGGGGATGGGCGG  
CGTGAGCGCCCCCGGCGCCGCGGATGACGGGTTCGTGTCGCACCTGGCCACGGA  
CACCGTGCACTACAACCCCTCGGACCTCTCCTCCTGGGTCGAGAGCATGCTTTCC  
GAGCTCAACGCGCCGCTGCCCCCTATCCCGCCAGCGCCGCGGCTGCCCCGCCATG  
CTTCCACCTCGTCCACTGTCACCGGCGGCGGTGGTAGCGGCTTCTTTGAACTCCC  
AGCCGCTGCCGACTCGTCGAGTAGCACCTACGCCCTCAGGCCGATCTCCTTACCG  
GTGGTGGCGACGGCTGACCCGTCGGCTGCTGACTCGGCGAGGGACACCAAGCGG  
ATGCGCACTGGCGGCGGCAGCACGTGTCGTCTCATCGTCGTCTTCTCTCTGG  
GCGGTGGGGCCTCGCGGGGCTCTGTGGTGGAGGCTGCTCCGCCGGCGACGCAAG  
GGGCCGCGGCGGCGAATGCGCCCGCCGTGCCGTTGTGGTGGTTGACACGCAGG  
AGGCTGGGATCCGGCTGGTGCACGCGTTGCTGGCGTGCGCGGAGGCCGTGCAGC  
AGGAGAACTTC

Figure 6b

RPTRPEAGGSSGGGSSADMGSCKDKVMAGAAGEEEDVDELLAALGYKVRSSDMAD  
VAQKLEQLEMAMGMGGVSAPGAADDGFVSHLATDTVHYNPSDLSSWVESMLSELN  
APLPIPPAPPAARHASTSSTVTGGGGSGFFELPAAADSSSSTYALRPISLPVVATADPS  
AADSARDTKRMRTGGGSTSSSSSSSSSLGGGASRGSVVEAAPPATQGAAAANAPAVP  
VVVVDTQEAGIRLVHALLACAEAVQQENF



Inventor: HARBERD et al  
SN 09/485,529/Sheet 15 of 22  
Atty. Dkt.: 620-91

Figure 7a

GCCAGGAGCTCTGTGGTGGAGGCTGCCCCGCCGGTCGCGGCCCGCGGCCAACGCG  
ACGCCCCGCGCTGCCGGTCGTCTGTGGTCGACACGCAGGAGGCCGGGATTCGGCTG  
GTGCACGCGCTGCTGGCGTGCGCGGAGGCCGTGCAGCAGGAGAACCTCTCCGCC  
GCGGAGGCGCTGGTGAAGCAGATACCCTTGCTGGCCGCGTCCCAGGGCGGCGCG  
ATGCGCAAGGTCGCCGCTACTTCGGCGAGGCCCTCGCCCCGCCGCGTCTTCCGCT  
TCCGCCCCGACGCCGACAGCTCCCTCCTCGACGCCGCTTCGCCGACCTCCTCCA  
CGCGCACTTCTACGAGTCCTGCCCTACCTCAAGTTCGCGCACTTCACCGCCAAC  
CAGGCCATCCTGGAGGCGTTCGCCGGCTGCCGCCGCGTGCACGTCGTCGACTTCG  
GCATCAAGCAGGGGATGCAGTGGCCCGCACTTCTCCAGGCCCTCGCCCTCCGTCC  
CGGCGGCCCTCCCTCGTTCCGCCCTACCGGCGTCCGCCCCCGCAGCCGGACGAG  
ACCGACGCCCTGCAGCAGGTGGGCTGGAAGCTCGCCAGTTCGCGCACACCATC  
CGCGTCGACTTCCAGTACCGCGGCCTCGTCGCCGCCACGCTCGCGGACCTGGAGC  
CGTTCATGCTGCAGCCGGAGGGCGAGGAGGACCCGAACGAGGAGCCCGAGGTAA  
TCGCCGTCAACTCAGTCTTCGAGATGCACCGGCTGCTCGCGCAGCCCGGCGCCCT  
GGAGAAGGTCTTGGGCACCGTGCGCGCCGTGCCGCCCAGGATCGTCACCGTGGT  
GGAGCAGGAGGCGAATCACAACCTCCGGCACATTCTTGACCGCTTCACCGAGTC  
TCTGCACTACTACTCCACCATGTTTCGATTCCCTCGAGGGCGGCAGCTCCGGCGGC  
GGCCCATCCGAAGTCTCATCGGGGGCTGCTGCTGCTCCTGCCGCCGCCGGCACGG  
ACCAGGTCATGTCCGAGGTGTACCTCGGCCGGCAGATCTGCAACGTGGTGGCCTG  
CGAGGGGGCGGAGCGCACAGAGCGCCACGAGACGCTGGGCCAGTGGCGGAACC  
GGCTGGGCAACGCCGGGTTCGAGACCGTCCACCTGGGCTCCAATGCCTACAAGC  
AGGCGAGCACGCTGCTGGCGCTCTTCGCCGGCGGCGACGGCTACAAGGTGGAGG  
AGAAGGAAGGCTGCCTGACGCTGGGGTGGCACACGCGCCCGCTGATCGCCACCT  
CGGCATGGCGCCTGGCCGGGCCGTGATCTCGCGAGTTTTGAACGCTGTAAGTACA  
CATCGTGAGCATGGAGGACAACACAGCCCCGGCGGCCGCCCGGCTCTCCGGCG  
AACGCACGCACGCACGCACTTGAAGAAGAAGAAGCTAAATGTCATGTCAGTGAG  
CGCTGAATTGCAGCGACCGGCTACGATCGATCGGGCTACGGGTGGTTCCGTCCGT  
CTGGCGTGAAAGAGGTGGATGGACGACGAACTCCGAGCCGACCACCACCGGCATG  
TAGTAATGTAATCCCTTCTTCGTTCCAGTTCTCCACCGCCTCCATGATCACCCTG  
AAAACCTCCTAAGCCCTATTACTACTATTATGTTTAAATGTCTATTATTGCTAT  
GTGTAATTCTCCAACCGCTCATATCAAAATAAGCACGGGCGCGAAAAA  
AA  
AA

Figure 7b

ARSSVVEAAPPVAAAANATPALPVVVVDTEAGIRLVHALLACAEAVQQENLSAAE  
ALVKQIPLLAASQGGAMRKVAA YFGEALARRVFRFRPQPDSSLLDAAFADLLHAHF  
YESCPYLKFAHFTANQAILEAFAGCRRVHVVDGFIKQGMQWPALLQALALRPGGPPS  
FRLTGVGPPQPDETDALQQVGWKLAFQAHTRVDFQYRGLVAATLADLEPFMLQPE  
GEEDPNEEPEVIAVNSVFEMHRLLAQPGALEKVLGTVRAVRPRIVTVVEQEANHNSG  
TFLDRFTESLHYYSTMFDSLEGGSSGGGPSEVSSGAAAAPAAAGTDQVMSEVYLGR  
QICNVVACEGAERTERHETLGQWRNRLGNAGFETVHLGSNAYKQASTLLALFAGGD  
GYKVEEKEGCLTLGWHTRPLIATSAWRLAGP



Inventor: HARBERD et al  
SN 09/485,529/Sheet 16 of 22  
Atty. Dkt.: 620-91

Figure 8a

ATAGAGAGGCGAGGTAGCTCGCGGATCATGAAGCGGGAGTACCAGGACGCCGG  
AGGGAGCGGCGGCGGCGGTGGCGGCATGGGCTCGTCCGAGGACAAGATGATGGT  
GTCGGCGGCGGCGGGGGAGGGGGAGGAGGTGGACGAGCTGCTGGCGGCGCTCG  
GGTACAAGGTGCGCGCCTCCGACATGGCGGACGTGGCGCAGAAGCTGGAGCAGC  
TCGAGATGGCCATGGGGATGGGCGGCGTGGGCGCCGGCGCCCGCCCCGACGACA  
GCTTCGCCACCCACCTCGCCACGGACACCGTGCACATAACCCCAACCGACCTGTC  
GTCTTGGGTGAGAGCATGCTGTGCGAGCTCAACGCGCCGCCGCCGCCCTCCCG  
CCCGCCCCGAGCTCAACGCCTCCACCTCCTCCACCGTCACGGGCAGCGGCGGCT  
ACTTCGATCTCCCGCCCTCCGTGCACTCCTCCAGCAGCATCTACGCGCTGCGGCC  
GATCCCTCCCGGCGGCGCGACGGCGCCGGCCGACCTGTCCGCCGACTCCGTG  
CGGGATCCCAAGCGGATGCGCACTGGCGGGAGCAGCACCTCGTCGTATCCTCCT  
CCTCGTCGTCTCTCGGTGGGGGCGCCAGGAGCTCTGTGGTGGAGGCTGCCCGCC  
GGTCGCGGCCGCGGCCAACGCGACGCCCGCGCTGCCGGTCGTGCTGGTCGACAC  
GCAGGAGGCCGGGATTGCGGTGGTGACGCGCTGCTGGCGTGCGCGGAGGCCGT  
GCAGCAGGAGAACCTCTCCGCCGCGGAGGCGCTGGTGAAGCAGATACCCTTGCT  
GGCCGCGTCCCAGGGCGGCGCGATGCGCAAGGTGCGCCGCTACTTCGGCGAGGC  
CCTCGCCCGCCGCGTCTTCCGCTTCCGCCCGCAGCCGGACAGCTCCCTCCTCGAC  
GCCGCCTTCGCCGACCTCCTCCACGCGCACTTCTACGAGTCTGCCCTACCTCAA  
GTTTCGCGCACTTCACCGCCAACAGGCCATCCTGGAGGCGTTCGCCGGCTGCCGC  
CGCGTGACGTCGTGCACTTCGGCATCAAGCAGGGGATGCAGTGGCCCGCACTTC  
TCCAGGCCCTCGCCCTCCGTCCCGGCGGCCCTCCCTCGTTCGCGCTACCGGCGTC  
GGCCCCCGCAGCCGGACGAGACCGACGCCCTGCAGCAGGTGGGCTGGAAGCTC  
GCCAGTTCGCGCACACCATCCGCGTCGACTTCAGTACCGCGGCCCTCGTCGCCG  
CCACGCTCGCGGACCTGGAGCCGTTTATGCTGCAGCCGGAGGGCGAGGAAGACC  
CGAACGAGGAGCCCGAGGTAATCGCCGTCAACTCAGTCTTCGAGATGCACCGGC  
TGCTCGCGCAGCCCGGCGCCCTGGAGAAGGTCTTGGGCACCGTGCGCGCCGTGC  
GGCCCAGGATCGTCAACGTGGTGGAGCAGGAGGCGAATCACAACCTCCGGCACAT  
TCCTGGACCGCTTCACCGAGTCTCTGCACTACTACTCCACCATGTTTCGATTCCCTC  
GAGGGCGGCAGCTCCGGCGGCGGCCCATCCGAAGTCTCATCGGGGGCTGCTGCT  
GCTCCTGCCGCCCGCGGCACGGACCAAGTTCATGTCCGAGGTGTACCTCGGCCGGC  
AGATCTGCAACGTGGTGGCCTGCGAGGGGGCGGAGCGCACAGAGCGCCACGAGA  
CGTTGGGCCAGTGGCGGAACCGGCTGGGCAACGCCGGGTTTCGAGACCGTCCACC  
TGGGCTCCAATGCCTACAAGCAGGCGAGCACGCTGCTGGCGCTCTTCGCCGGCGG  
CGACGGCTACAAGGTGGAGGAGAAGGAAGGCTGCCTGACGCTGGGGTGGCACAC  
GCGCCCGCTGATCGCCACCTCGGCATGGCGCCTGGCCGGGCGCTGATCTCGCGAG  
TTTTGAACGCTGTAAGTACACATCGTGAGCATGGAGGACAACACAGCCCCGGCG  
GCCGCCCGGCTCTCCGGCGAACGCACGCACGCACGCACTTGAAGAAGAAGAAG  
CTAAATGTTCATGTGAGTGAAGTGAATTGCAGCGACCGGCTACGATCGATCGGG  
CTACGGGTGGTTCCTCGTCTGGCGTGAAGAGGTGGATGGACGACGAACCTCCG

Figure 8b

MKREYQDAGSGGGGGGMGSSEDKMMVSAAGEGEEVDELLAALGYKVRASDM  
ADVAQKLEQLEMAMGMGGVGAGAAPDDSFATHLATDTVHYNPTDLSSWVESMLS  
ELNAPPPPLPPAPQLNASTSSTVTGSGGYFDLPPSVDSSSSIYALRPIPSGATAPADL  
SADSVRDPKRMRTGGSSTSSSSSSSSSLGGGARSSVVEAAPPVAAAANATPALPVV  
VDTQEAGIRLVHALLACAEAVQQENLSAAEALVKQIPLLAASQGGAMRKVAA YFGE  
ALARRVFRFRPQPDSSLLDAAFADLLHAHFYESCPYLKFAHFTANQAILEAFAGCRR  
VHVVDVFGIKQGMQWPALLQALALRPGPPSFRLTGVPQPDETALQQVGWKL  
QFAHTIRVDFQYRGLVAATLADLEPFMLQPEGEEDPNEEPIAVNSVFEMHRLLAQ  
PGALEKVLGTVRAVRPRIVTVVEQEANHNSGTFLDRFTESLHYYSTMFDSLEGGSSG  
GGPSEVSSGAAAAPAAAGTDQVMSEVYLGRQICNVVACEGAERTERHETLGQWRN  
RLGNAGFETVHLGSNAYKQASTLLALFAGGDGYKVEEKEGCLTLGWHTRPLIATSA  
WRLAGP





Inventor: HARBERD et al  
SN 09/485,529/Sheet 17 of 22  
Atty. Dkt.: 620-91

Figure 9a

TTTCGCCTGCCGCTGCTATTAATAATTGCCTTCTTGGTTTCCCCGTTTTTCGCCCCAG  
CCGCTTCCCCCCTCCCCTACCTTTCTTCCCCACTCGCACTTCCCAACCCTGGAT  
CCAAATCCCAAGCTATCCAGAACCGAAACCGAGGCGCGCAAGCCATTATTAGC  
TGGCTAGCTAGGCCTGTAGCTCCGAAATCATGAAGCGCGAGTACCAAGACGCCG  
GCGGGAGTGGCGGCGACATGGGCTCCTCCAAGGACAAGATGATGGCGGCGGCGG  
CGGGAGCAGGGGAACAGGAGGAGGAGGACGTGGATGAGCTGCTGGCCGCGCTC  
GGGTACAAGGTGCGTTTCGTCGGATATGGCGGACGTGCGCGCAGAAGCTGGAGCAG  
CTCGAGATGGCCATGGGGATGGGCGGCGTGGGCGGCGCCGGCGCTACCGCTGAT  
GACGGGTTCGTGTCGCACCTCGCCACGGACACCGTGCCTACAATCCCTCCGACC  
TGTCGTCTTGGGTGAGAGCATGCTGTCCGAGCTCAACGCGCCCCCAGCGCCGCT  
CCCGCCCGCGACGCCGGCCCCAAGGCTCGCGTCCACATCGTCCACCGTCACAAGT  
GGCGCCGCGCCGGTGTGGTACTTCGATCTCCCGCCCGCCGTGGACTCGTCCA  
GCAGTACCTACGCTCTGAAGCCGATCCCCTCGCCGGTGGCGGCGCCGTCCGGCCGA  
CCCGTCCACGGA CTGCGCGCGGGAGCCCAAGCGGATGAGGACTGGCGGCGGCAG  
CACGTCGTCTCTCTTCTCGTCGTATCCATGGATGGCGGTGCGACTAGGAGCT  
CCGTGGTTCGAAGCTGCGCCGCGGCGACGCAAGCATCCGCGGCGGCCAACGGGC  
CCGCGGTGCCGGTGGTGGTGGTGGACACGCAGGAGGCCGGGATCCGGCTCGTGC  
ACGCGCTGCTGGCGTGC GCGGAGGCCGTGCAGCAGGAGAACTTCTCTGCGGCGG  
AGGCGCTGGTCAAGCAGATCCCCATGCTGGCCTCGTCGAGGGCGGTGCCATGC  
GCAAGGTCGCCGCTACTTCGGCGAGGCGCTTGCCCGCCGCGTGTATCGCTTCCG  
CCCGCCACCGGACAGCTCCCTCCTCGACGCCGCTTCGCCGACCTCTTGACGCG  
CACTTCTACGAGTCCTGCCCTACCTGAAGTTCGCCCACTTCACCGCGAACCAGG  
CCATCCTCGAGGCCTTCGCCGGCTGCCGCCGCGTCCACGTCGTGACTTCGGCAT  
CAAGCAGGGGATGCAGTGGCCGGCTCTTCTCCAGGCCCTCGCCCTCCGCCCTGGC  
GGCCCCCGTTCGTTCCGGCTCACCGGCGTCCGGCCGCGCAGCCCGACGAGACC  
GACGCCTTGACAGCAGGTGGGCTGGAACTTGCCCACTTCGCGCACACCATCCGCG  
TGGACTTCCAGTACCGTGGCCTCGTCGCGGCCACGCTCGCCGACCTGGAGCCGTT  
CATGCTGCAACCGGAGGGCGATGACACGGATGACGAGCCCGAGGTGATCGCCGT  
GAACTCCGTGTTTCGAGCTGCACCGGCTTCTTGCGCAGCCCGGTGCCCTCGAGAAG  
GTCCTGGGCACGGTGC GCGCGGTGCGGCCGAGGATCGTGACCGTGGTTCGAGCAG  
GAGGCCAACCACAACCTCCGGCACGTTCTCGACCGCTTCACCGAGTCGCTGCACT  
ACTACTCCACCATGTTTCGATTCTCTCGAGGGCGCCGGCGCCGGCTCCGGCCAGTC  
CACCGACGCCTCCCCGGCCGCGGCCGGCGGCACGGACCAGGTCATGTGCGAGGT  
GTACCTCGGCCGCGAGATCTGCAACGTGGTGGCGTGCAGAGGGCGCGGAGCGCAC  
GGAGCGCCACGAGACGCTGGGCCAGTGGCGCAGCCGCCTCGGCGGCTCCGGGTT  
CGCGCCCGTGCACCTGGGCTCCAATGCCTACAAGCAGGCGAGCACGCTGCTGGC  
GCTCTTCGCCGGCGGGCGACGGGTACAGGGTGGAGGAGAAGGACGGGTGCCTGAC  
CCTGGGGTGGCATAACGCGCCCGCTCATCGCCACCTCGGCGTGGCGCGTCGCCGCC  
GCCGCCGCTCCGTGATCAGGGAGGGGTGGTTGGGGCTTCTGGACGCCGATCAAG  
GCACACGTACGTCCCCTGGCATGGCGCACCTCCCTCGAGCTCGCCGGCACGGGT  
GAAGCTACCCGGGGGATCCACTAATTCTAAAACGGCCCCACCGCGGTGGAATC  
CACCTTTTGTTCCTTTA



Inventor: HARBERD et al  
SN 09/485,529/Sheet 18 of 22  
Atty. Dkt.: 620-91

## Figure 9b

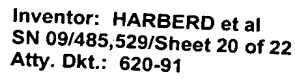
MKREYQDAGGSGGDMGSSKDKMMAAAAGAGEQEEEDVDELLAALGYKVRSSDM  
ADVAQKLEQLEMAMGMGGVGGAGATADDGFVSHLATDTVHYNPSDLSSWVESML  
SELNAPPAPLPPATPAPRLASTSSTVTSGAAAGAGYFDLPPAVDSSSSTYALKPIPSV  
AAPSADPSTDSAREPKRMRTGGGSTSSSSSSSSSSMDGGRTRSSVVEAAPPATQASAAA  
NGPAVPVVVVDVTQEAGIRLVHALLACAEAVQQENFSAAEALVKQIPMLASSQGGAM  
RKVAAYFGEALARRVYRFRPPPDSSLLDAAFADLLHAHFYESCPYLKFAHFTANQAI  
LEAFAGCRRVHVVDGFIKQGMQWPALLQALALRPGGPPSFRLTGVGPPQPDETDAL  
QQVGWKLQFAHTIRVDFQYRGLVAATLADLEPFMLQPEGDDTDDEPEVIAVNSVF  
ELHRLLAQPGALEKVLGTVRAVRPRIVTVVEQEANHNSGTFLDRFTESLHYYSTMFD  
SLEGAGAGSGQSTDASPAAAGGTDQVMSEVYLGRQICNVVACEGAERTERHETLGQ  
WRSRLGGSGFAPVHLGSNAYKQASTLLALFAGGDGYRVEEKDGCLTLGWHTRPLIA  
TSAWRVAAAAAP



Inventor: HARBERD et al  
SN 09/485,529/Sheet 19 of 22  
Atty. Dkt.: 620-91

maiz-fin	YKVRSSDMAD	55
rht-fina	YKVRSSDMAD	55
rice-fin	YKVRSSDMAD	55
gai	YKVRSSDMAD	44
maiz-fin	MLSELNAPPA	115
rht-fina	MLSELNAPPA	114
rice-fin	MLSELNAPPA	114
gai	MLSELNAPPA	93
maiz-fin	VAA.PSADPS	174
rht-fina	AGATAPADLS	168
rice-fin	VVATADPS.A	171
gai	A ILNQFA . .	114
maiz-fin	NGPAVPVVVV	234
rht-fina	ATPAVPVVVV	225
rice-fin	NAPAVPVVVV	231
gai	AESTRHVVVV	159
maiz-fin	AYFGEALARR	294
rht-fina	AYFGEALARR	285
rice-fin	TYFAEALARR	256
gai	TYFAEALARR	219
maiz-fin	RRVHVVDFFGI	354
rht-fina	RRVHVVDFFGI	345
rice-fin	KRVHVIDF.SM	256
gai	KRVHVIDF.SM	277
maiz-fin	HTIRVDFQYR	414
rht-fina	HTIRVDFQYR	405
rice-fin	EA.IHVEFEYR	256
gai	EA.IHVEFEYR	337
maiz-fin	VLGTVRAVRP	473
rht-fina	VLGTVRAVRP	465
rice-fin	VLGVVNQIKP	256
gai	VLGVVNQIKP	392

Figure 10a



maiz-fin	R I V T V V E Q E A	N H N S G T F F L D R	F T E S L H Y Y S T	M F D S L E G A G A	G S G Q S T D A S P	A . . . A A G G T	529
rht-fin	R I V T V V E Q E A	N H N S G T F F L D R	F T E S L H Y Y S T	M F D S L E G G S S	G G G P S E V S S G	A A A A P A A A G T	525
rice-fin	E I F T V V E Q E S	N H N S P I F L D R	F T E S L H Y Y S T	L F D S L E G V P S	G Q . . . . .	. . . . .	256
gai							434
maiz-fin	D Q V M S E V Y L G	R Q I C N V V A C E	G A E R T E R H E T	L G Q W R S R L G G	S G F A P V H L G S	N A Y K Q A S T L L	589
rht-fin	D Q V M S E V Y L G	R Q I C N V V A C E	G A E R T E R H E T	L G Q W R N R L G N	A C F E T V H L G S	N A Y K Q A S T L L	585
rice-fin	D K V M S E V Y L G	K Q I C N V V A C D	G P D R V E R H E T	L S Q W R N R F G S	A G F A A A H I G S	N A F K Q A S M L L	256
gai							494
maiz-fin	A L F A G G D G Y R	V E E K D G C L T L	G W H T R P L I A T	S A W R V A A A A A	P	630	
rht-fin	A L F A G G D G Y K	V E E K E G C L T L	G W H T R P L I A T	S A W R L A G P . .	.	623	
rice-fin	A L F N G G E G Y R	V E E S D G C L M L	G W H T R P L I A T	S A W K L S T N . .	.	256	
gai						532	



Inventor: HARBERD et al  
SN 09/485,529/Sheet 21 of 22  
Atty. Dkt.: 620-91

## Figure 11a

TACCAAGACGCCGGCGGGAGTGGCGGCGACATGGGCTCCTCCAAGGACAAGATG  
ATGGCGGCGGCGGCGGGAGCAGGGGAACAGGAGGAGGAGGACGTGGATGAGCT  
GCTGGCCGCGCTCGGGTACAAGGTGCGTTCGTTCGGATATGGCGGGGCTGGAGCA  
GCTCGAGATGGCCATGGGGATGGGCGGCGTGGGCGGCGCCGGCGCTACCGCTGA  
TGACGGGTTCGTGTTCGCACCTCGCCACGGACACCGTGCACTACAATCCCTCCGAC  
CTGTCGTCTGGGTTCGAGAGCATGCTGTCCGA

## Figure 11b

YQDAGGSGGDMGSSKDKMMAAAAGAGEQEEEDVDELLAALGYKVRSSDMAGLEQ  
LEMAMGMGGVGGAGATADDGFVSHLATDTVHYNPSDLSSWVESMLS

## Figure 11c

TCCTCCAAGGACAAGATGATGGCGGCGGCGGCGGGAGCAGGGGAACAGGAGGA  
GGAGGACGTGGATGAGCTGCTGGCCGCGCTCGGGTACAAGGTGCGTTCGTTCGGA  
TATGGCGGACGTTCGCGCAGAAGCTGGAGCAGCTCGAGATGGCCATGGGGATGGG  
CGGCGTGGGCGGCGCCGGCGCTACCGCTGATGACGGGTTCGTGTTCGCACCTGTTCG  
TCCTGGGTTCGAGAGCATGCTGTCCGAGCTCAACGCGCCCCCAGCGCCGCTCCCGC  
CCGCGACGCCGGCCCCAAGGCTCGCGTCCACATCGTCCACCGTCACAAGTGGCGC  
CGCCGCCGGTGTCTGGCTACTTCGATCTCCCGCCCCGCGTGGACTC

## Figure 11d

SSKDKMMAAAAGAGEQEEEDVDELLAALGYKVRSSDMADVAQKLEQLEMAMGM  
GGVGGAGATADDGFVSHLSSWVESMLSELNAPPAPLPATPAPRLASTSSTVTSGAA  
AGAGYFDLPPAVD



Inventor: HARBERD et al  
SN 09/485,529/Sheet 22 of 22  
Atty. Dkt.: 620-91

## Figure 12a

GCGGCGCTCGGGTACAAGGTGCGCGCCTCCGACATGGCGGACGTGGCGCAGAAG  
CTGGAGCAGCTCGAGATGGCCATGGGGATGGGCGGCGTGGGCGCCGGCGCCGCC  
CCCGACGACAGCTTCGCCACCCACCTCGCCACGGACACCGTGCACTACAACCCCA  
CCGACCTGTCGTCTTGGGTGCGAGAGCATGCTGTGCGGAGCTCAACGCCTCCACCTC  
CTCCACCGTCACGGGCAGCGGCGGCTACTTCGATCTCCCGCCCTCCGTCGACTCC  
TCCAGCAGCATCTACGCGCTGCGGCCGATCCCCTCCCCGGCCGGCGCGACGGCGC  
CGGCCGACCTGTCCGCCGACTCCGTGCGGGATCCCAAGCGGATGCGCACTGGCG  
GGAGCAGCACCTCGTCGTCATCCTCCTCCTCGTC

## Figure 12b

AALGYKVRASDMADVAQKLEQLEMAMGMGGVGAGAAPDDSFATHLATDTVHYN  
PTDLSSWVESMLSELNASTSSTVTGSGGYFDLPPSVDSSSSIYALRPIPSAGATAPAD  
LSADSVRDPKRMRTGGSSTSSSSSSS